ovum, but a thin envelope closely investing that membrane, and not appreciable as a distinct structure until the ovum has been crushed. When the chorion first admits of demonstration as a distinct structure the ovum consists of three membranes, a state which the author has seen in an ovum no farther advanced than about an inch into the Fallopian tube. The chorion subsequently thickens and imbibes a quantity of fluid presenting a gelatinous appearance.

April 25, 1839.

The MARQUIS of NORTHAMPTON, President, in the Chair.

Robert Rigg, Esq. and James Joseph Sylvester, Esq. were balloted for, and duly elected into the Society.

A paper was in part read, entitled, "Account of Experiments on Iron-built Ships, instituted for the purpose of discovering a Correction for the Deviation of the Compass produced by the Iron of Ships." By George Biddell Airy, Esq., M.A., F.R.S., A.R.

May 2, 1839.

The MARQUIS of NORTHAMPTON, President, in the Chair.

Arthur Farre, M.B., was balloted for, and duly elected into the Society.

A paper was in part read, entitled, "On the Motion of the Blood." By James Carson, M.D., F.R.S.

May 9, 1839.

The MARQUIS of NORTHAMPTON, President, in the Chair.

William Sharpey, M.D. and the Rev. Charles Turnor, M.A. were balloted for, and duly elected into the Society.

The reading of a paper, entitled, "On the Motion of the Blood." By James Carson, M.D., F.R.S., was resumed and concluded.

After referring to his paper contained in the Philosophical Transactions for 1820, relative to the influence of the elasticity of the lungs as a power contributing to the effectual expansion of the heart, and promoting the motion of the blood in the veins, the author states that his object in this paper is to explain more fully the mode in which these effects are produced, and to corroborate by additional

facts and observations the arguments adduced in its support. He endeavours, from a review of the circumstances under which the veins are placed, to show the inconclusiveness of the objections which have been urged by various physiologists against his and the late Sir David Barry's theory of suction: namely, that the sides of a pliant vessel, when a force of suction is applied, will collapse and arrest the further transmission of fluid though that channel. The considerations which he deems adequate to give efficacy to the power of suction in the veins of a living animal are, first, the position of the veins by which, though pliant vessels, they acquire in some degree the properties of rigid tubes; secondly, the immersion of the venous blood in a medium of a specific gravity at least equal to its own; thirdly, the constant introduction of recrementitious matter into the venous system at its capillary extremities by which the volume of the venous blood is increased, and its motion urged onwards to the heart in distended vessels; and lastly, the gravity of the fluid itself, creating an outward pressure at all parts of the veins below the highest level of the venous system. The author illustrates his positions by the different quantities of blood which are found to flow from the divided vessels of an ox, according to the different modes in which the animal is slaughtered.

The reading of a paper, entitled, "Account of Experiments on Iron-built Ships, instituted for the purpose of discovering a Correction for the Deviation of the Compass produced by the Iron of the Ships." By George Biddell Airy, Esq., A.M., F.R.S., Astronomer Royal, was also resumed and concluded.

In this paper the problem of the deviation of a ship's compass, arising from the influence of the iron in the ship, more particularly in iron-built ships, is fully investigated; and the principles on which the correction for this deviation depends having been determined, practical methods for neutralizing the deviating forces are deduced and illustrated by experimental application. The author states that, for the purpose of ascertaining the laws of the deviation of the compass in the iron-built steam-ship the Rainbow, four stations were selected in that vessel, about four feet above the deck, and at these the deviations of the horizontal compasses were determined in the various positions of the ship's head. All these stations were in the vertical plane, passing through the ship's keel, three being in the after part of the ship and one near the bow. Observations were also made for determining the horizontal intensity at each of the stations. The deviations of dipping needles at three of these stations were also determined, when the plane of vibration coincided with that of the ship's keel, and also when at right angles to it.

After describing the particular method of observing rendered necessary by the nature of the vessel and the circumstances of her position, the author gives the disturbance of the horizontal compass at the four stations deduced from the observations. The most striking features in these results are, the very great apparent change in the direction of the ship's head, as indicated by the compass nearest